

Monday, April 20, 2015 10:13:12 AM

Page 1

Quality Control

10 ~~0~~ ~~15/04/23~~

7150724

P150424

10

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General	Other	Other
☐ Bending	☐ Bend	☐ Folio/Program	☐ Outside Dimensions
☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance
☐ Cracks	☐ Broken/Damage/Defect	☐ Hardware	☐ Part Incorrect
☐ Crimp/Kink/Ripple/Wave	☐ Burrs	☐ Inspection Incomplete/Unqualified	☐ Part Lost/Missing
☐ Cuffs	☐ Contamination	☐ Instructions Incomplete/Unclear	☐ Part Moved
☐ Crushing	☐ Countersink	☐ Misaligned/off center	☐ Positioned Wrong
☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Power Loss/Surge
☐ Inspection Strip in Tube	☐ Drawing	☐ Misread	☐ Pressure/Forced
☐ Marks/Chatter	☐ Drill Holes	☐ Off-set	☐ Set-up
☐ Turning Sequence	☐ Finish	☐ Out of Calibration	☐ Temperature/Cure
☐ Wave/Twist in Tube	☐ Fit/Function	☐ Out of Sequence	☐ Weld
			☐ Wrong Stock Pulled
			☐ Other

Work Order ID 131623

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131623

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Item ID: D3610-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Bracket
 Start Date: 4/20/2015 Start Qty: 10.00 ***10*** Cust Item ID:
 Required Date: 4/20/2015 Req'd Qty: 10.00 ***10*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00				10	0		DAS 44 9-89 15/04/26
140 *140* Small Fab Small Fab	Small Fab Memo 1-C'SINK AS PER DWG D3610	0.00 0.00				10X			DAS 36 9-89 15/04/27
150 *150* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00				(10)			DAS 38 9-89 APR 27 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 131623

131623

Page 3

Monday, April 20, 2015 10:13:12 AM

Item ID: D3610-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Bracket
 Start Date: 4/20/2015 Start Qty: 10.00 ***10*** Cust Item ID:
 Required Date: 4/20/2015 Req'd Qty: 10.00 ***10*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 *160* Powdercoat Powder Coating	Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3 <i>M 180746</i> Memo START TIME: <i>1:25</i> <i>6:20</i> FINISH TIME: <i>1:55</i>	0.00 0.00				<i>10</i>	<i>0</i>	<i>15-4-28</i>	<i>DAS 34 9-89</i>
170 *170* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00				<i>10X</i>		<i>15/04/29</i>	<i>DAS 36 9-89</i>
180 *180* Small Fab Small Fab	Small Fab Memo Rivet Nut Plate as per Dwg D3610	0.00 0.00				<i>10X</i>		<i>15/04/29</i>	<i>DAS 36 9-89</i>

Work Order ID 131623

Monday, April 20, 2015 10:13:12 AM

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Item ID: D3610-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Bracket
Start Date: 4/20/2015 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 4/20/2015 Req'd Qty: 10.00 ***10*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 *190* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00				(10)			DAS 38 APR 29 2015
200 *200* Packaging Packaging	Identify as per dwg & Stock Location: <u>ST-051</u> Memo	0.00 0.00				10	HS		DAS 6 9-89 APR 29 2015
210 *210* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00							MLJ APR 30 2015

MLJ APR 30 2015

Picklist Print

Monday, April 20, 2015 10:13:16 AM

Page 1

Work Order ID: 131623

131623

Parent Item: D3610-041

D3610-041

Parent Item Name: Bracket

Start Date: 4/20/2015

Required Date: 4/20/2015

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP rev A new issue 07.03.28 EC
IPP rev B released, changed mat'l EC
C:AS PER REV B JLM VERIFIED BY:DD

IPP REV

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M4140N-
B1.500X1.5000

Purchased

No

100

f

17.7660

0.7

8

M4140N-B1 500X1 5000

4140 Steel Bar 1.50 x 1.50

15/04/23

Location

Loc Qty

Loc Code

MAT034

17.766

m127137

17.766

6.75'

MS20426AD3-4

Purchased

No

110

Each

4,959.000

2

20

MS20426AD3-4

RIVET

15/04/29

DAS
36
9-89

Location

Loc Qty

Loc Code

CA

12

125578

12

GA

3979

m131697

3979

20

MF4

19

125578

19

ST313

949

m127432

949

MS21075L3

MS21075L3N

Purchased

No

180

Each

157.0000

1

10

MS21075L3

Nut Plate

15/04/29

DAS
36
9-89

Location

Loc Qty

Loc Code

ST300

157

M130281

17

M131153

140

LD M130358
10X

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

DART AEROSPACE LTD		Work Order: 131623
Description: Plate		Part Number: D3610-1
Inspection Dwg: D3610	Rev: B	Page 1 of 1

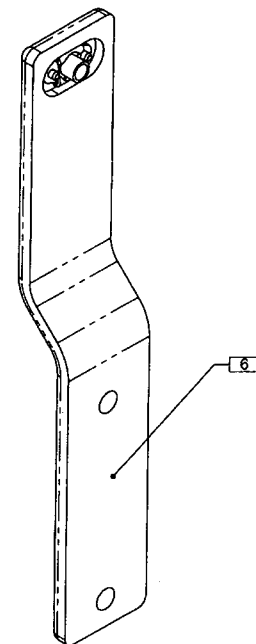
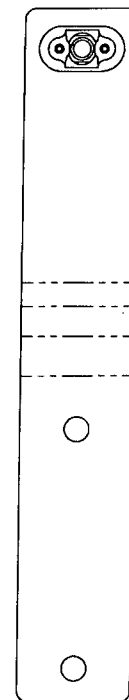
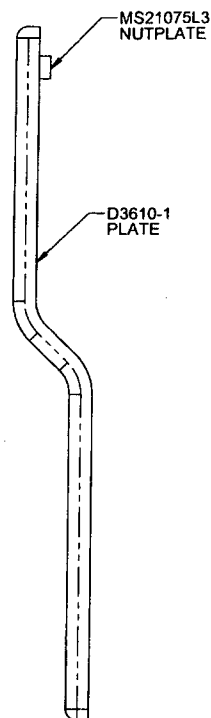
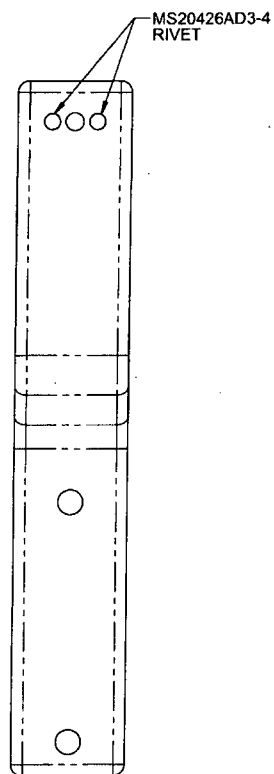
FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.25	+/-0.030	1.245	✓		vern LPO9	
0.250	+/-0.010	.250	✓			
0.63	+/-0.030	.628	✓			
7.75	+/-0.030	7.750	✓			
4.25	+/-0.030	4.250	✓			
2.677	+/-0.010	2.677	✓			
0.38	+/-0.030	.375	✓			
Ø0.277	+0.006/-0.001	.277	✓			
Ø0.201	+0.005/-0.001	.201	✓			
Ø0.098	+0.004/-0.001	.098	✓			
0.88	+/-0.030	.870	✓			
0.94 x 0.50	+/-0.030	.937 x .503	✓			
0.250	+/-0.010	.250	✓			
0.125 depth	+/-0.010	.124	✓			

Measured by: [Signature]	Audited by: DAS 44 9-89	Preliminary Approval:
Date: 15/04/24	Date: 15/04/20	Date:

Rev	Date	Change	Revised by	Approved
A	08.04.21	New Issue P/O D3610-041	KJ/DD	
B	12.05.15	Dimensions updated per Dwg Rev B	KJ	[Signature]

ITEM	QTY -041	P/N	DESCRIPTION
	X	D3610-041	BRACKET
1	1	D3610-1	PLATE
2	1	MS21075L3	NUT PLATE
3	2	MS20426AD3-4	RIVET



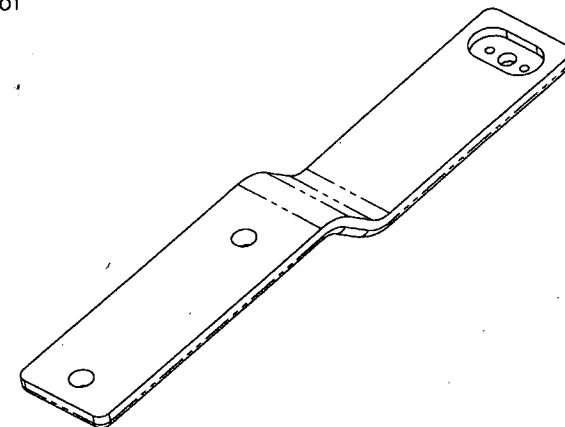
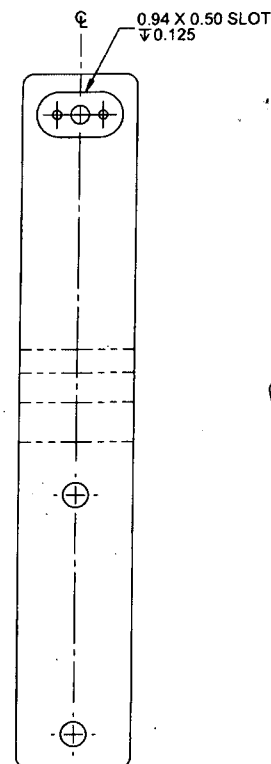
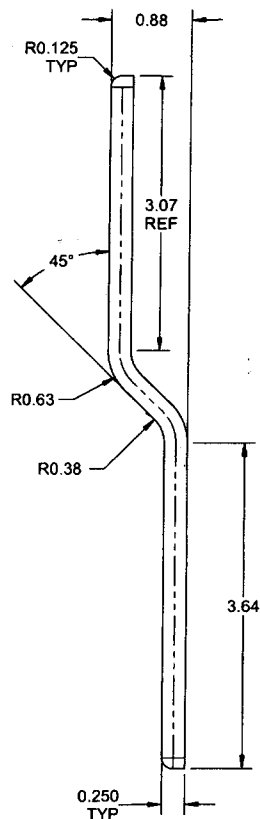
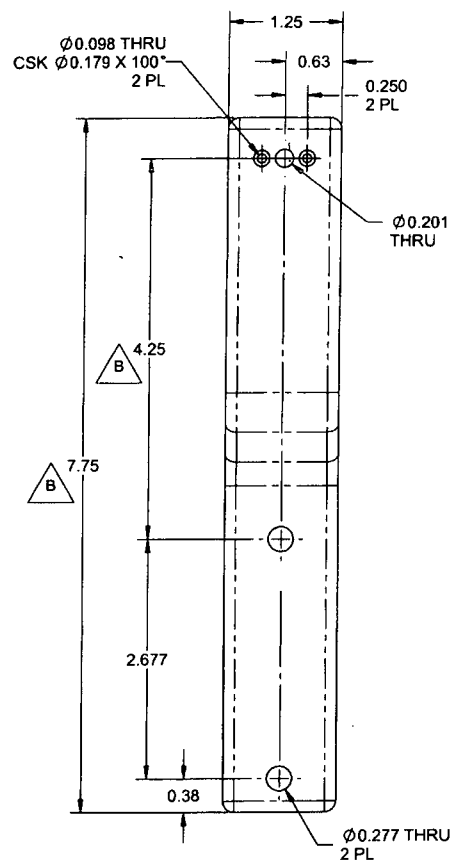
131623
MLJ
1504-20

RELEASED
2012-04-30

NOTES:
1) MATERIAL: N/A
2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3610-041" PER QSI044 METHOD 6.1
7) WEIGHT: 0.67lbs

D3610-041 BRACKET

B	DIM 4.25 WAS 3.00 (C7-3) DIM 7.75 WAS 6.50 (C7-2)	RP	12.04.13
A	NEW ISSUE	LE	07.04.20
REV.	DESCRIPTION	BY	DATE
DESIGN	LE	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RP		
CHECKED	AP	DRAWING NO.	REV. B
MFG. APPR.	MLJ	D3610	SHEET 1 OF 2
APPROVED	MLJ	TITLE	SCALE
DE APPR.	MLJ	BRACKET	NTS
DATE	12.04.13	COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMERCE OR COMMUNICATION TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



D3610-1 PLATE

NOTES:

- 1) MATERIAL: 4130N STEEL BAR PER MIL-S-6758 OR AMS 6345 OR AMS 6348 OR 6370 OR 6528 (REF DART SPEC M4130N-B) OR 4140N STEEL BAR PER MIL-S-5626 OR AMS 6382 OR 6349 OR 6529 (REF DART SPEC M4140N-B)
- 2) FINISH: POWDER COAT GREY SANDTEX (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.66lbs
- 8) PROFILE PER DRAWING FILE "D3610-1-REV B.STP"

DESIGN	LE	DART AEROSPACE LTD	
DRAWN	RP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	A. P	DRAWING NO.	REV. B
MFG. APPR.	EC	D3610	SHEET 2 OF 2
APPROVED	MD	TITLE	SCALE
DE APPR.	W	BRACKET	NTS
DATE	12.04.13	COPYRIGHT © 2007 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD			

RELEASED
2012-04-30